Amendments to the claims.

This listing of the claims will replace all prior versions and listings of the claims in the application:

1. (original) A method of backing up and restoring data in a computer system, the method comprising:

defining a logical backup object;

specifying one or more collapsed extents; and

recording details of the collapsed extents.

2. (original) The method of claim 1 further comprising:

starting data movement between a host and the backup and restore system; and

monitoring data movement.

3. (original) The method of claim 2 further comprising:

receiving a completed signal; and

in response to the completed signal, halting the monitoring of the data movement.

4. (original) The method of claim 2 further comprising repeatedly defining a logical backup object, specifying extents, starting data movement, recording details of the specified extents and monitoring data movement from a first storage unit to a second storage unit until all data is transferred to the second storage unit.

5. (original) The method of claim 2 further comprising restoring data by:

creating empty objects to restore into;

discovering the extents of the empty objects;

reading the extents of the backup objects; and

specifying a mapping from backup extents to restore extents wherein at least one of the extents corresponds to a collapsed extent.

6. (original) A method of backing up data used in a computer system having a client, a primary storage system and a backup storage system, the method comprising:

discovering one or more actual extents on the primary storage system;

collapsing the extents; and

specifying the collapsed extents to the backup storage system.

7. (original) The method of claim 6 wherein collapsing the extents comprises:

identifying a pattern in the actual extents discovered on the primary storage system; and

generating a representation of files specified by the actual extents which is more compact than the representation provided by the actual extents and defining the representation as a collapsed extent.

8. (original) A method of restoring data from a backup and restore system to a host, the method comprising:

creating empty objects on host to restore into;

discovering the extents of the empty objects;

reading the extents of the backup objects; and

specifying a mapping from backup extents to restore extents wherein at least one of the extents corresponds to a collapsed extent.

9. (original) The method of Claim 8 wherein specifying a mapping comprises specifying pairs of extents which identify the backup extents and the restore extents.

10. (currently amended) The method of Claim 8 wherein specifying a mapping comprises:

identifying whether both back up and restore extents ~~is~~are striped;

in response to both the back up and restore extents being striped, identifying whether both back up and restore extents have the same column width and column count;

in response to both the back up and restore extents being striped, identifying whether both back up and restore extents start at the beginning of a stripe element;

compute a number of repetitions; and

generate a single restore extent for the number of repetitions.

11. (original) The method of Claim 8 further comprising:
monitoring data movement.
receiving a complete signal; and
in response to the completed signal halting the monitoring of the data movement.

12. (original) A backup and restore system for backing up and restoring files to and from a primary storage system coupled to a client, the backup and restore system comprising:
a processor for defining a logical backup object;
a collapsed extent processor for specifying collapsed extents;
means for starting data movement; and
an extent recording processor for recording details of collapsed extents.

13. (currently amended) The system of claim ~~11~~12 further comprising means for logically restoring a logical element from a segment of storage on the primary storage system.

14. (original) The system of claim 12 further comprising a processor for specifying a mapping from backup extents to restore extents wherein at least one of the extents corresponds to a collapsed extent.

15. (original) The system of claim 13, wherein said means for logically restoring comprises:
means for creating empty objects to restore into;
means for discovering the extents of the empty objects;
means for reading the extents of the backup objects; and
means for specifying a mapping from backup extents to restore extents wherein at least one of the extents corresponds to a collapsed extent.

16. (original) The system of claim 13, wherein the means for logically restoring comprises means for specifying pairs of extents which identify the backup extents and the restore extents

17. (new) A method of restoring data from a backup and restore system to a host, the method comprising:

creating empty objects on host to restore into;

discovering the extents of the empty objects;

reading the extents of the backup objects; and

specifying a mapping from backup extents to restore extents wherein at least one of the extents corresponds to a collapsed extent and wherein specifying a mapping comprises:

identifying whether both back up and restore extents are striped;

in response to both the back up and restore extents being striped, identifying whether both back up and restore extents have the same column width and column count;

in response to both the back up and restore extents being striped, identifying whether both back up and restore extents start at the beginning of a stripe element;

computing a number of repetitions; and

generating a single restore extent for the number of repetitions.